

REMARKS

At the outset, applicants would like to thank Examiner Forman for taking the time to discuss the application with the undersigned and her efforts in advancing prosecution in the present application.

Claims 34-35, 38-44, and 46 are pending. Claims 34, 35, 38-44 and 46 have been amended to address the formal matters raised in the outstanding Official Action.

In particular, claims 34-35, 38-44 and 46 were rejected were rejected under 35 USC §112, second paragraph, for allegedly being indefinite. Applicants believe the present amendment overcomes this amendment.

Applicants thank the Examiner for the suggestions said to overcome this rejection. Indeed, applicants have followed many of the suggestions.

However, applicants note that while claim 39 has been amended to delete the phrases "or probes" and "or gaps", claim 39 now recites the phrase "at least one small gap". Support for this recitation may be found in claim 8 and page 4, lines 29-33 in the present specification. Furthermore, in the interest of clarity, claims 38 and 39 have been amended to refer to steps b) and c) set forth in claim 44.

Regarding the rejection to part (f) of claims 43 and 44 set forth on pages 3 and 4 of the Official Action, the claims have been amended to clarify the embodiments covered by claims 43

and 44. In particular, the claims have been amended to clarify which of the two padlock probes, which together comprise the probe, is specific for the target. As the Office Action objected to the antecedent basis for the term "*target-specific*", the final part of claims 43 and 44 have been amended to recite that one of the two padlock probes in each case "hybridises to the target nucleic acid sequence in step (b)". Antecedent basis and support for this language may be found in step (b) of the respective claims.

Furthermore, in step (f) of claims 43 and 44, these claims recited state in part (d) "the detectable function becomes covalently connected to the other probe part" and "the detectable function is not covalently connected to the other probe part ... and hence is not covalently connected to the support".

However, it is believed that the reference to "covalently connected" in relation to the dissociable detectable function and the solid phase anchor-bearing other probe part required further clarification. These two probe parts become "connected" by means of the interlocking of the two covalently closed circular molecules. However, analogous to two links in a chain, although "connected" they are not physically bonded to each other and thus are not "covalently connected", which would require a physical joining. Applicants have therefore deleted the reference to a covalent connection from this part of these claims and inserted the phrase "*connected by catenation*".

The principle of catenation is discussed generally in the present specification on page 1, line 35 to page 2, line 4. In addition, Figures 2, 4 and 5 illustrate how catenation is employed in the context of the invention. Figures 2 and 5 exemplify claims 43 and 44, respectively, with the former being described in Example 2. In this regard, the Examiner's attention is respectfully directed to page 11, lines 21-22, and 30-31. Part (f) of these claims has instead been amended to replace "remaining" with "connected", the intended meaning being "connected by catenation", which is believed to implicit from the amendments to part (d) of these claims. Claim 46 (f) has also been amended in a similar manner so that the terminology in the claims is consistent.

In order to better characterize the embodiment recited by claim 46, part (a) of claim 46 has been amended to specify that the probe is immobilisable. Step (d) specifies immobilising the probe to a solid support either before the probe is contacted with the target nucleic acid, or after target-mediated circularisation of the probe but before the cleavage step. As immobilisation at the specified points in the method have basis in at least claim 12 and the present specification at page 7, lines 11 to 14, applicants believe that the term is definite and supported by the present disclosure.

However, if for some reason the Examiner objects to the terminology, the Examiner is certainly invited to contact he undersigned so that this terminology can be discussed.

In view of the above, applicants believe that the application is in condition for allowance at the time of the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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